

Cycling in a rebuilt Christchurch: Beckenham leading the way!

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Beckenham Neighbourhood Association AGM
September 16th 2014



Who am I?



- University Professor
 - Teacher and Researcher
- Local Transport involvement
 - Regional Transport Committee
- Christchurch resident for 14 years (Beckenham for 4 yrs)
- Commuter & utility cyclist
- Husband and father



Evidence based cycle advocate

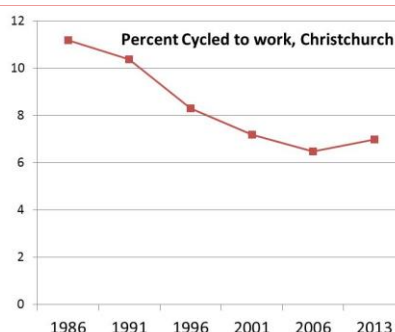


Talk today

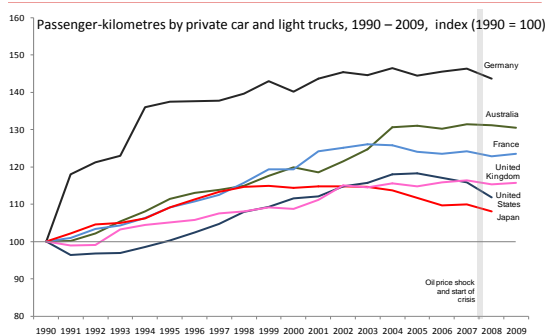


- Context
- Why do we want more people to cycle?
- How do we get more people to cycle?
- Beckenham – cycle capital of Christchurch!
- What can we/BNA do?

Context



Peak car



Peak car



... especially younger people ...

The New Zealand Herald Search keywords...

Brian Rudman's Opinion
Brian Rudman is a NZ Herald feature writer and columnist.

Brian Rudman: End of the road for the sacred car?
9:30 AM Friday Jun 6, 2014 89 comments

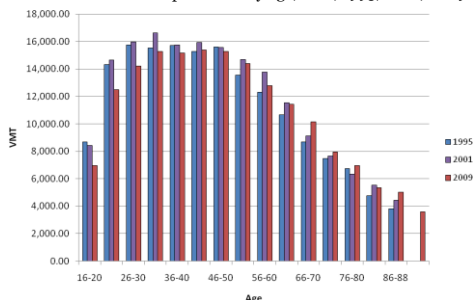
Auckland Region Brian Rudman on Auckland Motoring 131 18 0 1

As New Zealand's largest roading project roars ahead, people are using their vehicles less and their legs more

Peak car and age



Annual vehicle miles per driver by age, USA, 1995, 2001, 2009



Context



Climate change



- Domestic transport contributes 42 % of total carbon dioxide emissions in NZ
- 17% of ALL carbon emissions are from motor vehicles



WHY DO WE WANT MORE PEOPLE TO CYCLE?

Traffic pollution

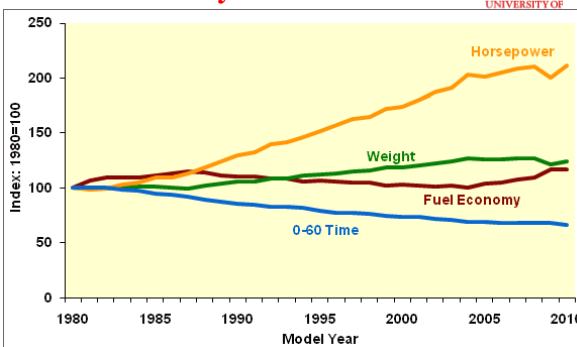


Traffic pollution:

- Kills 45 adult Cantabrians per year
- Causes 47,000 restricted activity days among Canterbury
- From PM₁₀ costs \$126m per year in Christchurch (\$164m Canterbury)

Source: Kuschel et al, Updated Health and Air Pollution in New Zealand Study Volume 1: Summary Report, 2012, Prepared for HRC, MoT, MfE and NZTA.

Fuel efficiency



Characteristics of New Light Vehicles over Time
www1.eere.energy.gov/vehiclesandfuels/facts/m/2011_f0tw690.html

Road space and congestion



Cycling Promotion Fund, Australia. www.bikeoz.com.au/index.php/cycling-promotion-fund

Road building

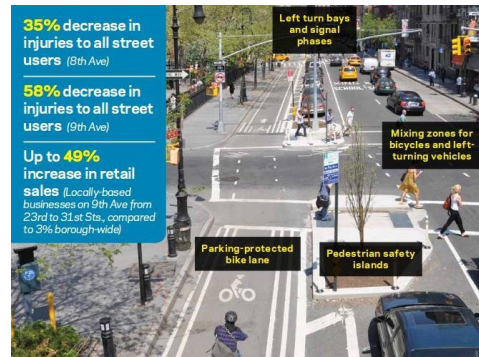


- National \$12.3bn funding package (2012-15)
 - Roads especially new state highways (Roads of National Significance)
 - 0.43% for walking & cycling
- "this means the funding available for public transport, cycling and walking networks ... will be heavily constrained for much of the early recovery period"*
- Christchurch Transport Strategic Plan
- National's extra \$100m adds extra 0.7%!

Economic sense



- NZ research: *"transforming urban roads over the next 40 years, using best practice physical separation on main roads and bicycle-friendly speed reduction on local streets, would yield benefits 10–25 times greater than costs"* (Macmillan et al, 2014)



New York City Dept of Transportation, Measuring the Street: New Metrics for 21st Century Streets

www.nyc.gov/html/dot/downloads/pdf/2012-10-measuring-the-street.pdf

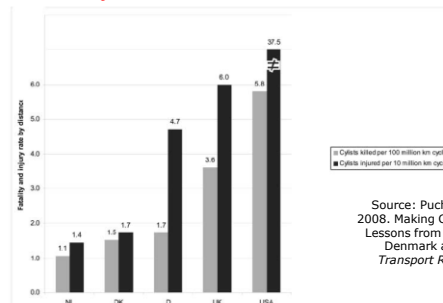
Average Customer Expenditures by Mode of Travel and Type of Establishment

Clifton K, 2012, Business Cycles: Catering to the Bicycling Market, TRB 280, 26

| Mode | Establishment | Trips per Month | \$ per Trip | \$ per Month | N |
|---------|---------------|-----------------|-------------|--------------|-------|
| Auto | Bar | 1.6 | 25.55 | 40.21 | 88 |
| | Convenience | 9.9 | 7.98 | 79.37 | 543 |
| | Restaurant | 2.2 | 18.74 | 41.16 | 409 |
| | Total | 4.5 | 13.70 | 61.03 | 1,040 |
| Bike | Bar | 4.9 | 14.08 | 68.56 | 42 |
| | Convenience | 14.5 | 7.30 | 105.66 | 63 |
| | Restaurant | 3.5 | 12.08 | 42.52 | 48 |
| | Total | 7.1 | 10.66 | 75.66 | 153 |
| Transit | Bar | 1.8 | 19.54 | 35.35 | 13 |
| | Convenience | 10.9 | 6.91 | 75.62 | 53 |
| | Restaurant | 3.5 | 11.52 | 40.68 | 36 |
| | Total | 5.7 | 10.15 | 58.16 | 102 |
| Walk | Bar | 3.1 | 22.17 | 68.42 | 53 |
| | Convenience | 12.6 | 6.13 | 77.34 | 254 |
| | Restaurant | 2.6 | 16.74 | 43.77 | 131 |
| | Total | 5.9 | 11.25 | 66.22 | 438 |
| Total | Bar | 2.5 | 21.78 | 53.59 | 196 |
| | Convenience | 10.9 | 7.36 | 80.40 | 913 |
| | Restaurant | 2.4 | 17.39 | 41.78 | 624 |
| | Total | 5.0 | 12.60 | 63.46 | 1,733 |

Note: N = number of respondents.

Safety



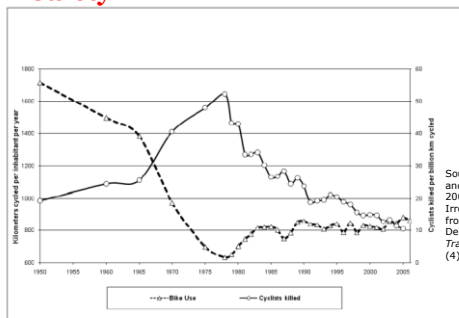
Sources: Danish Ministry of Transport (2007), Department for Transport (2007), German Federal Ministry of Transport (2007), Netherlands Ministry of Transport (2007), U.S. Department of Transportation (2007)

Figure 10. Fatality rates and non-fatal injury rates in the Netherlands, Denmark, Germany, the UK and the USA (2004–2005).

Source: Pucher and Buehler. 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews* 28 (4).



Safety

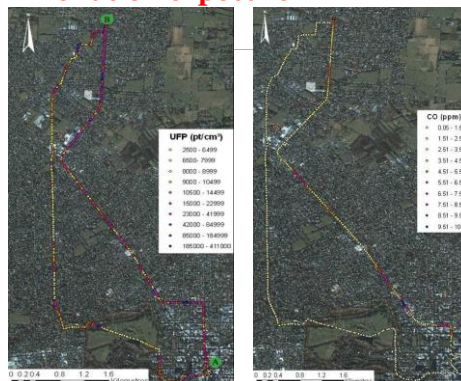


Source: Netherlands Ministry of Transport (2007)

Figure 12. Inverse trends in cycling fatality rates and annual kilometres cycled per inhabitant in the Netherlands (1950-2005).

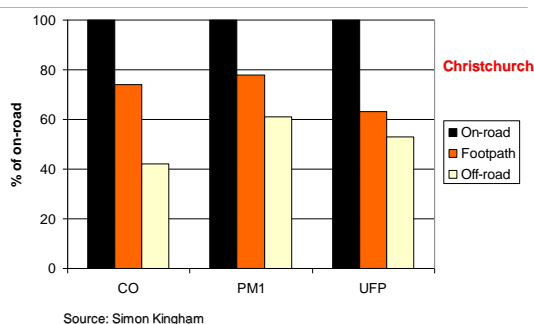
Source: Pucher, John, and Ralph Buehler. 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews* 28 (4).

Pollution exposure



Source: Simon Kingham and Woodrow Pattinson

Pollution exposure



Source: Simon Kingham

Social capital

Communities that promote sustainable and active can:

- Reduce disparities between the rich and poor
- Promote good neighbourhood
- Enable poor to gain better access to healthy food
- Lead to decreased crime

Source: OECD, 2000, Environmentally sustainable transport. Futures, strategies and best practices.

Happier people



Morris EA and Guerra E, 2014, Mood and mode: does how we travel affect how we feel? *Transportation* DOI 10.1007/s11116-014-9521-x

Obesity

"New Zealand is in the grip of a global obesity epidemic, the future costs of which will be enormous, potentially unaffordable for the health system."

- Professor Norman Sharpe, New Zealand Heart Foundation medical director, Sept 2011 www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10752121

Obesity epidemic reaching crisis levels

By Patricia Dougan
7:09 PM Thursday May 25, 2014

Health health & wellbeing Obesity



The latest global fat facts are pretty grim, experts say. Photo / Thinkstock

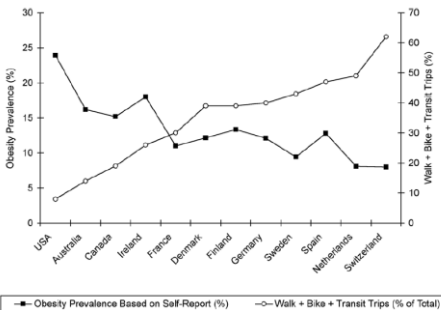
New Zealand's obesity epidemic has reached crisis levels, health and nutrition experts says.

An international study has shown Kiwis have a higher rate of obesity than Australians, with two thirds of adults classed as obese or overweight. This figure has risen over the past 30 years from 50 per cent, the biggest increase among developed nations in the study.

Childhood obesity rates also increased, rising to 29 per cent from 18 per cent in the same period.



What level of impact



Source: Bassett et al, 2008, Walking, Cycling, and Obesity Rates in Europe, North America, and Australia. *Journal of Physical Activity & Health* 5 (6):795-814.

What level of impact

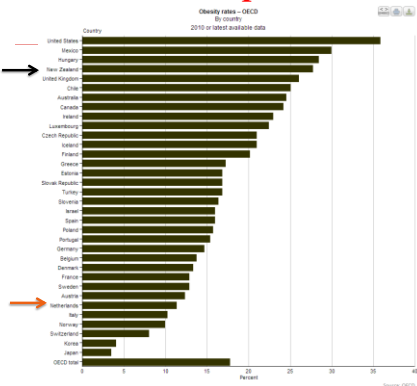


- Obesity costs NZ \$622m per year* in health costs alone (+ \$98-\$222m lost productivity)#
- That equates to \$64m in Christchurch for health costs (+ \$10-\$23m in lost productivity)

* Based on 2006 figures

Lal et al, 2012, Health care and lost productivity costs of overweight and obesity in New Zealand. *Aust NZ J Public Health*. 2012; 36:550-6

What level of impact



What level of impact

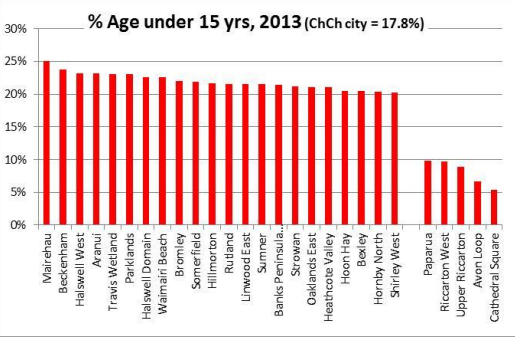


If Christchurch's obesity rates dropped from 33% to:

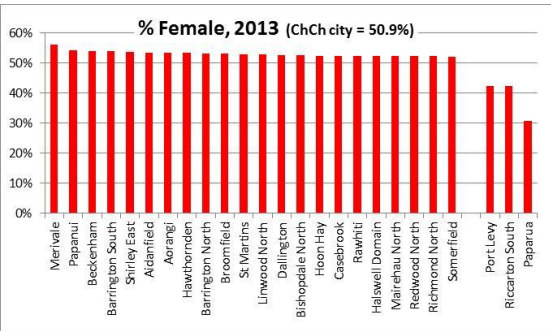
- 11.4% (Netherlands); we'd save over \$50m p.a.
- 20% - we'd save over \$30m p.a.
- 25% - we'd save over \$20m p.a.

HOW DO WE GET MORE PEOPLE TO CYCLE?

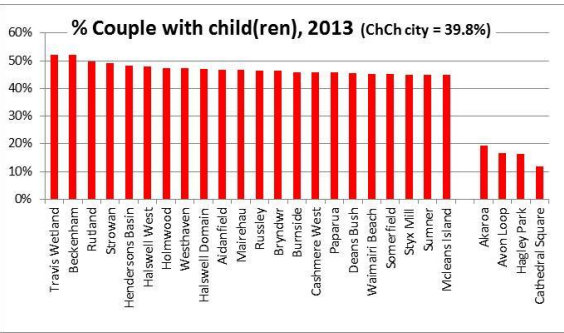
What's special about Beckenham?



What's special about Beckenham?



What's special about Beckenham?



What's special about Beckenham?



- Top 10% for:
 - 40-50 yrs
 - European
 - No religion
 - Professionals
- Bottom 10% for:
 - Going by car to work
 - Asian
 - Christian
 - Labourers

What's special about Beckenham?



- Why do we cycle more than others?
 - Safety is key barrier and separated infrastructure is key
 - People are important
 - How are we special?
 - Geography

Note: Data is only commuting

WHAT CAN WE/BNA DO?

Arguments



- Economise evidence
 - But, ... fragmented government ... Local Council spends money, MoH/CDHB reaps the benefit
- Speak up
 - Local submissions
- Be persistent and consistent
- Cycle chic
 - Make cycling cool!



Bikelash!

06 NEWS

Calls for calm as bike lane backlash gains momentum

THE HILLMAN CITY EDITION



Local news: The council has been criticised for its decision to close the city's main roads to cars and create a new bike lane. The council has been criticised for its decision to close the city's main roads to cars and create a new bike lane.

The New York Times

N.Y. / Region

Expansion of Bike Lanes in City Brings Backlash



Over the last four years, the streets of New York City have undergone a transformation. More than 100 miles of traffic lanes dedicated for bicycles have been created, and several laws intended to promote cycling have been passed.

The efforts by the Bloomberg administration have placed the city at the forefront of a national trend to make bicycling viable and safe even in the most urban of settings. Yet over the last year, a backlash has taken hold.

So how many people might actually cycle?



- Christchurch City commuting 2013 – 7% mode share
- What can we achieve?
- What are the barriers to us reaching Dutch levels – i.e. 30-40% mode share?

What can we do locally



- Advocate for:
 - Bike boulevards/greenways
 - Cheap, limited infrastructure, no physical separation
 - Discourage cars
 - Reduced speed limits
 - <http://www.20splentyforus.org.uk/>
 - <http://en.30kmh.eu/>

Christchurch - Copenhagen of the South?



For

- Plenty of road space
- Flat terrain
- Mild climate
- Many short journeys
- People like cycling
- Some existing infrastructure
- \$70m investment

Against

- Dangerous!
- Low population density?
- Our love of cars!
- Limited investment
- Political leadership
- No central govt interest

Final Conclusions



- Investing in cycling is good economically
 - Especially health benefits
- Safety is the main barrier
 - Separation from traffic is the key
- If we provide safe cycling we will see a boom in cycling rates with multiple benefits
- Leadership and political will is needed
 - Local and national



Questions?